Handoff Documentation

The files included:

Python files:

* Ardcon.py = python code to create a loop that reads the data from the Arduino.
* Database.py = python code that connects it to the MySQL table. We use the database in phpmyadmin.cse.tamu.edu. Running it on phpmyadmin.cse.tamu.edu needs an ID and password.
* PythonToArduino\_UnitTest.py = test cases for the Arduino.
* PythonToDatabase\_UnitTest.py = test cases for the database.
* TestRead.py = example file for reading the output of the ultrasonic sensors. Includes an example loop for to read inward-bound traffic

PHP to Database files:

* DbConnect.php = PHP to database file. It creates a user interface using the data from database. Also, it includes function to get median, mode, and mean.
* Results.php = printing results to database
* UIPage.php = the counter web interface
* PHPtoDatabase\_UnitTest.php = test cases from PHP to database

Arduino files:

* Data.collector.ino = the Arduino code that should be uploaded to the Arduino; hardwired to handle specific hardware

How to run them:

1. Assemble the Arduino. Make sure to connect both of the ultrasonic sensors to the 5V and ground respectively.
2. Run the Arduino code on the Arduino to start collecting and sending serial data
3. Create a python code that calls the Arduino. Also, make sure to call setup function on the Arduino and set the maximum check distance using the setDistance() function.
4. Then, write a loop using genericRead and the database API to send to the database
5. Run this code on a device connected to the Arduino. A Raspberry Pi equipped with VNC is recommended, as it can be directly accessed for current state
6. Also, there are functions, such as MinInHourRange, MaxInHourRange, AverageInHourRange, ModeInHourRange that will take the data from the database and print out the minimum, maximum, average, or mode of people in a certain time.